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# 2009 Sustainability Report

Christian Ryan-Downing

Western Kentucky University, christian.ryan-downing@wku.edu

Western Kentucky University

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2009

# Sustainability Report







"As an institution of higher learning, we are obligated not only to use energy wisely, but to act as a model of conservation and efficiency for students and the greater community. We will emphasize personal responsibility, but we will lead by example, making significant changes in the way we build and operate day to day. Through our efforts, WKU seeks to be known in Kentucky as the University that leads in energy efficiency while ensuring a safe and comfortable present and future for our students."

- WKU President Gary A. Ransdell

# 2009 Sustainability Report

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**What a difference a year can make!** It seems like only yesterday that we were working on the first annual WKU Sustainability Report for 2007/2008 and, now we're rolling out the 2009 edition. Measured in time, it seems like a blink of the eye; measured in progress, it's hard to believe what we've accomplished in one year! Greening Big Red is an effort that the campus community has embraced with determination and enthusiasm. The individual and concerted efforts of students, faculty, staff, departments, and organizations are significant and are revealed in both the quantitative and qualitative reflections of our progress. We've got numbers to prove it: energy use has been cut by over 4 million kilowatt hours, and recycling rates have increased by 5%. More importantly, we are observing a culture shift. Education and research focused on sustainability is increasing and cross-campus collaborations abound, as you will see in the pages ahead. Others are taking notice; WKU is emerging as a regional leader in sustainability. I cannot help bursting with pride when I hear such observations from our neighbors across the commonwealth. It is a good day for a campus Sustainability Coordinator when her counterpart at an Oregon university calls to ask "how did you guys save all that energy?", or when she overhears a colleague from another Kentucky university say "If you want to know how to do sustainability, look at WKU". While I am overwhelmed with pride, I am mindful of two very important things: first, this would not be possible without the effort of so many; second, we have only just begun.



The spirit with which WKU has taken on the challenge of becoming a sustainable university is not surprising. We at WKU endeavor to master those charges with which we are faced. If the momentum of the past year is any indication, we are well on our way to becoming a university that operates, serves and educates its students and community sustainably, mindful of our environment, of people around the globe, and of future generations. As you review the 2009 WKU Sustainability Report, be proud of our accomplishments, be inspired by the creativity and commitment of others, and be determined to make continued progress.

**-Christian Ryan-Downing**  
**WKU Sustainability Coordinator**

# Academics & Research

## In the 2007/2008 WKU Sustainability Report

we listed courses and featured teachers that focus on sustainability. Since then, sustainability topics have increasingly been integrated into curricula across campus. The Princeton Review's annual "College Hopes & Worries Survey" tells us that 66% of respondents overall would value having information about a college's commitment to the environment. Sustainability has become a recruiting factor and colleges and universities are responding by developing programs of study and degrees in sustainability-related fields. Students are seeking preparation for the rising "green collar" job sector. WKU faculty and staff are up to the task, engaging students in community service learning projects, researching alternative energies and fuels, growing organic foods, converting waste to methane, and so much more.

In this section, we will describe some programs of study focused on sustainability. As you read ahead, know that this is just the beginning. As the *Education for Sustainability Steering Committee*, comprised of individuals from across campus, continues its work in advancing academic offerings and experiences in the field, and as more students request and expect to be prepared for the societal challenges they will face upon graduation, WKU will witness a culture shift. Faculty and staff from a variety of fields will partner on courses, the campus will be used as a living laboratory, and students will be making positive changes on their campus and in their community.

**The following is a brief description of some academic programs currently offered or being created.** It is by no means exhaustive. We look forward to The Academic Portal to guide us to all things sustainable in the WKU academic world. The Portal is currently under development by the Center for Environmental Education and Sustainability in partnership with the Provost's Office.

- The **Geology and Geography Department** offers Bachelor of Science Degrees in:
  - Environment and Sustainable Development
  - Land, Weather and Climate
  - Planning and GIS
  - Cultural GeographyThe Department also offers minors in:
  - Sustainability
  - City and Regional Planning
  - Water Resources
  - Floodplain Management

The department is developing an online Master's Degree in Environment and Sustainable Development.

- An online Master's Degree in Social Responsibility and Sustainable Community Development is under development in the **University College**.
- The **College of Education** offers a certificate in Environmental Education.

**Below is a sampling of other undergraduate and graduate courses that focus on Sustainability:**

- **Agriculture**  
AGRI 493: Practicum in Sustainable Agriculture  
AGEC 468G: World Food Development
- **Architectural and Manufacturing Sciences**  
AMS 520: Resource Management  
AMS 447: Green & Sustainable Construction
- **Biology**  
BIOL 315: Ecology  
BIOL 232: Wildlife Ecology
- **English**  
ENG 399/SOC 470: Literature, Culture and Environment
- **Philosophy and Religion**  
Religion and Ecology (*under development*)
- **Physical Education and Recreation**  
REC 430: Recreation Resource Mgmt  
REC 532: Environmental Education Resources
- **Geography and Geology**  
GEOG 210: Human Ecology  
GEOG 487: Environmental Law and Ethics  
GEOG 471: Natural Resource Management  
GEOG 475: Principles of Global Sustainability (*topic varies by semester*)
- **Management**  
MGT 410: Environmental Policy/Sustainability (*topic varies by semester*)
- **Public Health**  
ENV 375: Intro to Water Resources and Public Health  
510: Watershed Mgmt and Science
- **Sociology**  
SOCL 363: Population and Society and Social Inequality
- **Women's Studies**  
WOMN 575: Justice, Gender, and Sustainability

# Environmental Education and Sustainability

**2009 was a big year for the Center for Environmental Education and Sustainability**, formerly the WKU Center for Math, Science, and Environmental Education (since 1989). Dr. Terry Wilson, Director, and the Center staff have realized some amazing changes and accomplishments in the past year, the most obvious of which may be the name change which reflects expanding its mission to include sustainability education. The Center has welcomed new staff, including Robin Hume, Program Coordinator and Nancy Givens, Sustainability Programs Development Coordinator. As always, the Center will continue to support teachers and students studying to be teachers by offering courses for the Environmental Education (EE) Endorsement, workshops and outreach opportunities. Ms. Givens will help the center expand its emphasis on sustainability education, campus-community partnerships, and civic engagement.

The WKU Center for Environmental Education and Sustainability is one of eight university centers that form the Kentucky University Partnership for Environmental Education (KUPEE).

**In August, Dr. Wilson's Center was awarded a Learn and Serve America grant**

**by the Corporation for National and Community Service.** The Center will lead the KUPEE Energy Initiative in a two year, \$1.5 million project to integrate service learning into Kentucky EE programs. College and K-12 school students will engage in service-learning projects that build critical thinking and problem solving skills through a focus on energy and sustainability issues.

The Center is located in Jones-Jaggers Hall, a building not known for its efficiency, but Dr. Wilson and his staff are doing their best to green it up. They had their offices re-wired to better conserve lighting energy, and are dedicated recyclers. This year, besides the large grant they were awarded, Dr. Wilson and Ms. Givens have made some remarkable progress, and collaboration is the name of their game. They are working to establish a collaborative of government, businesses, and schools to form the Sustainability Council for the Bowling Green metro area and are also working with the City Commission to adopt Sustainability Indicators, created with help from a Gatton Academy student. They are supervising students from various departments who are conducting research in sustainability areas, such as collecting data on local solar applications and studying low-head hydro-power feasibility for the region.



## **ENV 560 Class Project *A Hole in the Ground***

During the Spring Semester of 2009, the students of the graduate level ENVE 560 class undertook a service learning project. Using the six-step 'Earth Force' model and democratic classroom style, Dr. Terry Wilson, professor for this course, introduced his students to several issues that they could research and work together on to implement an action plan. The issue they chose to pursue is a collapsing sinkhole that is located near Jones-Jaggers Hall on WKU's campus. Their goal was to make this area safer for anyone who would like to visit the sinkhole and to provide educational opportunities about karst topography and how that relates to what is happening at this site.

Students designed interpretive signage for the site, installed a grassway for storm water management, gathered educational materials for a karst lesson plan, designed a rain garden for the site, and even researched and recommended sustainable fencing for the site. The rain garden was installed by the WKU Garden Crew and the signage and fencing are coming soon. The site is being transformed from an unattractive sinkhole/injection well to an educational feature in the campus landscape!

Typically, the Earth Force program is targeted toward youth and encourages young people to serve as active citizens who improve the environment and their communities now and in the future. Dr. Wilson teaches his future teachers the Earth Force process, and many of them are using the program in their classrooms. Their students are getting engaged and making positive changes in their schools and communities.

For more information about Earth Force, visit their website at <http://www.earthforce.org/>





## Environmental Education in Austria

The program description sounds like a travel guide: "Lake Constance, the summits of the Swiss mountains, and the gentle rolling hills of Southern Germany provide the natural geographic borders for Bregenz. It lies just a few miles from the German and Swiss borders, which makes it an excellent place for exploring the historical, ecological and cultural aspects of Austria, Germany and Switzerland. Green space has been designed into the city plan, with walking paths through Bregenzer-wald, a wooded area that represents diversity in both plants and wildlife."

But this 15 day program, developed for teachers, educators and persons interested in comparing the environment in which they live with the Austria, Germany and Switzerland, is offered for professional development and course credit: EDU 400:Investigations in Education: Environmental Education in Austria, Germany, and Switzerland or EDU 595:Directed Study: Environmental Education in Austria, Germany and Switzerland.

The program brochure goes on to explain, "Bregenz provides the home base for the program because of its strategic location between Germany and Switzerland. It is a medium-sized town and is small enough to allow students to get to know the town and its people. Bregenz contains shops, churches, the Old City and natural areas, all in an inviting environment that encourages one to learn and explore".

Bregenz Environmental Education in Austria is a professional program sponsored by the Kentucky Institute for International Studies (KIIS). You can learn more at: [www.kiis.org](http://www.kiis.org) or from Billy Bennett, Program Director, Center for EE at EKU or Maria Canning, Professional Programs Specialist for KIIS for WKU.

## Focus on Faculty...

**Dr. Brian Sullivan**, Associate Professor of Business Lay in Gordon Ford College of Business Department of Management at WKU teaches two courses that focus on sustainability in business and management. In summer 2009 Dr. Sullivan taught BA 592 - Environmental Policy in Management, and in fall 2009 he taught MGT 410 - Environmental Policy/Sustainability. Both courses are seminars on the development of national environmental policy and management's role in the creation of and the reaction to the environmental policy.

His courses had their inception at the American Democracy Project's seminar of *Politics and the Yellowstone Ecosystem*. Dr. Sullivan reports that while encamped in Yellowstone, he found himself observing local environmental problems that are embedded in national policy, while issues regarding carbon reduction are being played out on a national and international stage. His courses explore how national policy is crafted and provides students an opportunity to evaluate and understand the complex forces affecting environmental public policy.

The reading lists for these courses are extensive and diverse, including such works as Thomas L. Friedman's *Hot, Flat and Crowded*, and writings by Wendell Berry, Aldo Leopold, Ralph Waldo Emerson, and others on topics such as wilderness preservation and appreciation, climate change, carbon cap and trade, green economy, and societal affluence.



**sustainABILITY!** In fall 2009, **Dr. Denise Gravitt's** AMS 262 - Construction Lab students constructed two children's' playhouses from recycled materials. They used discarded crating materials from a very large piece of equipment

delivered to the robotics laboratory, Hardieboard planks salvaged from the ReStore, shingles leftover from a roofing job and donated by a faculty member, trim boards from houses demolished on campus property last year, and some old plexiglass covers that were headed for the trash. The entire playhouse is made from recycled building materials, with the exception of some nails, screws, caulk, and door and window hardware.



Several centers and institutes housed at WKU are involved in finding solutions to environmental problems, both locally and globally. The following are just a few:

- WKU Center for Environmental Education and Sustainability (CEES)
- The Hoffman Environmental Research Institute and Center for Cave and Karst Studies
- Center for Biodiversity Studies
- Center for Water Resource Studies
- Ogden Environmental Water Quality Laboratory - Water Analysis Training Education and Research Services (WATERS)
- Institute for Citizenship and Social Responsibility
- The Applied Physics Institute
- Institute for Combustion Science and Environmental Technology
- WKU Office of Sustainability

# Innovation at the Farm

## Even the WKU Farm animals play a role in sustainability advancements at WKU.

In fall 2007 Ogden College partnered with David Emmerich of Organic Alchemy, LLC from Smiths Grove, Kentucky to create a model for methane production and capture from manure. A small demonstrative Anaerobic Methane Digester has been in operation for several months, so that researchers can work out any problems encountered in the model. The digester processes farm manure to create methane gas, which can be converted to energy, and the process end-product provides a nearly odorless and pathogen-free fertilizer.

The project, under the direction of faculty members Dr. Blaine Ferrell, Dr. Nevil Speer, and Mr. Darwin Newton, has provided much opportunity for student involvement. Currently, there are five undergraduate students and several USDA Agriculture Research Service employees that monitor and operate the facility. Approximately fifteen students helped with the construction and early implementation of the project. The model is intended to be a starting point for the creation of a large scale facility which would include a greenhouse. The research group is in the process of applying for grant funding to support construction of a larger unit.

There are many potential benefits to this model. Manure provides a renewable energy source and methane is converted to energy, rather than contributing to greenhouse gases in the atmosphere. Aerobic bacteria is removed from the manure during the process, reducing and eliminating odor and many pathogen concerns and making the effluent usable as an organic fertilizer. The model is an educational opportunity for students and the greater community and provides opportunity for collaboration with other projects in horticulture and agriculture.

**Dr. Jack Rudolph is directing a project which utilizes compost** (mostly leaves but possibly livestock bedding or other organics) to heat a greenhouse. The compost is placed in a heat bed and heat generated during decomposition is transferred into the greenhouse. This elegant idea is a great example of sustainable design; heat generated as a by-product of decomposition is pollutant and cost free and closes the loop, reducing waste and environmental impacts.

Speaking of closing the loop, animals at the WKU Farm are part of a very local circle of life. Last spring, the Farm was permitted by the Kentucky Department of Agriculture to construct an animal carcass composting unit. It is a cost effective and environmentally friendly means of handling dead animals on the Farm. Within 6 months from the time that they pass, animals are returned to the earth in the form of nutrient rich compost.



*Special thanks to Assistant Farm Manager David Newsom for his help with this story.*

## One aspect of climate change in Kentucky becomes a geography student's thesis

Sean Hutchison, a graduate student from Nashville, TN, is using remote sensing and geographic information systems (GIS) to measure the impact of climate change on forests in Mammoth Cave National Park. "Understanding how climate change will alter the productivity and distribution of tree species is important for resource managers seeking to maintain the health of their managed systems", said Hutchison.



**sustainABILITY!** Dr. Tammie Stenger-Ramsey from the Department of Kinesiology, Recreation, and Sport, recently received a Community Connect Grant from Leave No Trace, Inc. to receive \$900 worth of educational equipment and educational materials to teach people about low impact camping practices as well as steps individuals can take to protect the environment. She is working with Parker Bennett Community Center's after school program this fall on the Project.





*WKU Biodiesel Facility, including (red) final diesel storage tank, (green) chemical storage containment, all process vessels, and waste oil collection truck/tank.*

# Biodiesel Project

*By Dr. Kevin Schmaltz, WKU Engineering*

WKU Mechanical Engineering has been working on a student-based biodiesel project, in collaboration with the WKU Agriculture Department, for the past two years, and the first production of biodiesel is

expected in Fall 2009. The project began in 2007 when ME student Ryan Simpson made known his interest and experience in making biodiesel with his father for their farm equipment, using waste vegetable oil from local restaurants in their hometown of Glasgow, Kentucky. Jack Rudolph, chair of the Agriculture Department, and Mechanical Engineering faculty member Kevin Schmaltz had discussed the idea of making biodiesel from used vegetable oil produced at campus restaurants to run the WKU Agricultural Farm equipment. Simpson was placed on a 2007 – 08 ME senior project that began the design, equipment selection and construction of the facility. A 2008 – 09 team of ME seniors continued the project and completed the installation. Ogden College is funding the project, which is really more as a loan. The biodiesel created from the processing system is expected to supply the majority of the Agriculture Department's 6,500 gallon per-year fuel needs, saving the department approximately \$1.00 to \$2.00 per gallon.

The biodiesel facility has been built behind the Taylor Center at the Agricultural Farm, and is able to transform 500 gallons of used cooking oil into biodiesel per batch. WKU's Restaurant & Catering provider, Aramark, has agreed to donate the cooking oil produced on campus free of charge.

Other potential suppliers of cooking oil (and, more importantly, other possible feed supplies for the facility) will be investigated for the future, such as growing crops to produce the oil right on the WKU Farm. Because the processing system is scalable, the expansion of production capabilities beyond the currently anticipated 5000 gallons per year is possible. It is hoped that the entire campus shuttle fleet could eventually be provided with biodiesel produced at the WKU Biofuels Facility.



*Main biodiesel reactor vessel and glycol collection tank*

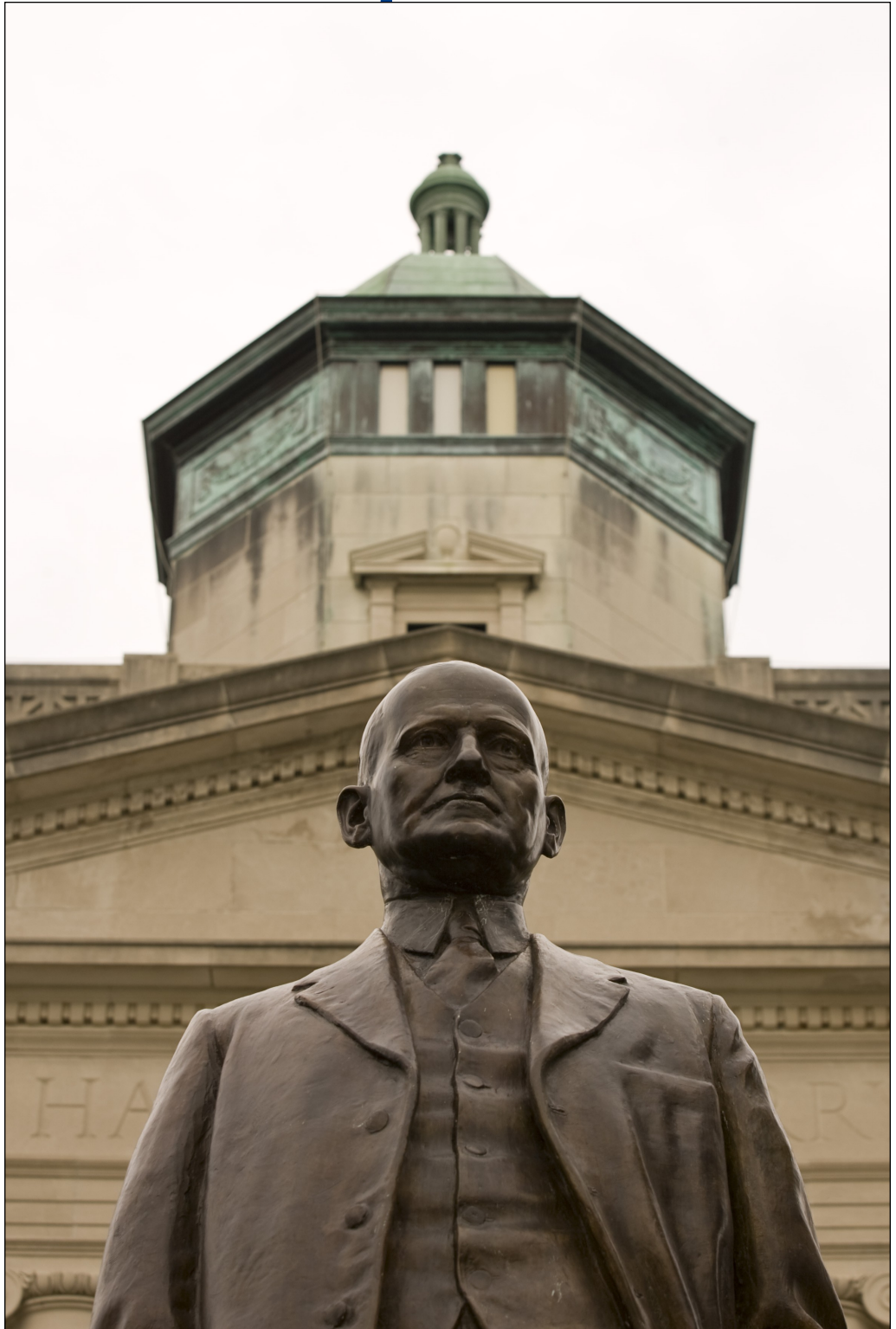
## **Provost's Initiative for Excellence Energy Conservation and Energy Savings Funding Initiative**

At the beginning of 2009, the Provost's Initiatives for Ex-

cellence Review Committee announced the establishment of a pool of funds designed to promote energy conservation and savings in university buildings. Campus community members are encouraged to submit proposals for investments in equipment, materials and solutions that lead to energy efficiency and reduced resource consumption. Proposals can be for equipment (such as alternative energy devices), or implementation of systems that lead to increased efficiency and create cost savings for the university.

Faculty member Marc Eagle was awarded a PIE Energy Conservation grant for his proposal for energy conservation in Cherry Hall. The proposal was for occupancy sensors for classrooms and Smartstrip surge protectors for faculty and staff offices. The Department of Facilities Management and Office of Sustainability partnered by providing installation and expertise. This is a success story of collaboration for a more efficient Cherry Hall that Dr. Cherry would be proud of.

For more information about Energy Savings and Conservation PIE grants, visit: <http://www.wku.edu/Dept/Support/AcadAffairs/PIE/PIE.htm>



*It is the duty of every American to plant more, produce more, save more, and give more." - Dr. Henry Hardin Cherry, WKU Founder and First President.*



# Built Space

## In 2009, WKU committed to building standards that meet or exceed LEED

(*Leadership in Energy and Environmental Design*) criteria in all renovations and new construction.

Some possible LEED standards include:

- recycle construction waste
- manage stormwater runoff on construction sites
- provide opportunities for alternative transportation
- maintain green space to reduce heat island effect
- develop only on previously developed land
- optimize natural lighting
- design for outside views for most building occupants,
- utilize natural ventilation
- use recycled content or local or renewable materials

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a voluntary, consensus-based national rating system for developing high-performance, sustainable buildings. LEED addresses all building types and emphasizes state-of-the-art strategies in five areas: sustainable site development, water savings, energy efficiency, materials and resources selection, and indoor environmental quality.

Each standard is worth credit and the credits earned determine the LEED certification level. WKU is seeking LEED Certification for the new College of Education and Behavioral Sciences building, which is scheduled to be completed in 2010.

The new College of Education and Behavioral Sciences building will incorporate many features for which LEED credit will be earned. Bike racks and a changing room with a shower for bicyclists will make riding to work a breeze. To decrease heat island effect, reflective coating will be used on the roof and pavement. Landscaping that requires minimal watering and water efficient plumbing fixtures will conserve water, and efficient lighting and emphasized natural lighting will decrease electricity use. Recycled materials and regionally sourced materials will be used in construction and interior outfitting, and the building will have a comprehensive recycling program.

These features make a building healthier and more comfortable for occupants, and studies have shown that a comfortable, healthy employee is more productive. Green building occupants also report reduced absenteeism and higher job satisfaction. Also, in healthy, comfortable schools, students attain higher test scores. This is great news because the building will also be used for educational purposes and as a model for sustainable design and operation, with occupants acting as ambassadors. The future occupants of the new College of Education and Behavioral Sciences have much to look forward to.



## U.S. Green Building Council

Western Kentucky University is a member of the U.S. Green Building Council (USGBC), allowing the university to take advantage of discounts, networking opportunities, industry resources and educational sessions, and other green building programs.

The U.S. Green Building Council mission is "to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life".

The USGBC is a non-profit organization committed to expanding sustainable building practices to create structures that are environmentally responsible, profitable, and healthy places to live and work. USGBC is dedicated to expanding green building practices and education, and its LEED Green Building Rating System.



## WKU LEED Accredited Professionals:

### PLANNING, DESIGN AND CONSTRUCTION

Victoria Coots, Project Manager, Renovations  
Natasha Smith, Senior Project Manager, Renovations  
Debbie Pace, Assistant Project Manager, Capital Construction

Dan Chaney, Project Manager, Capital Construction  
Kerra Ogden, Project Manager, Capital Construction  
Helen Siewers, Landscape Architect  
Ben Johnson, Assistant Director  
Bryan Russell, Director

### FACILITIES MANAGEMENT

Dale Dyer, Plant Operations Manager  
Greg Fear, Campus Services Manager  
Christian Ryan-Downing, Sustainability Coordinator

### OGDEN COLLEGE

Dr. Denise Gravitt, Architect & Manufacturing Sciences



**sustainABILITY!** The College of Education & Behavioral Sciences has made tremendous effort towards sustainability in 2009. While they look forward to their new green building, they are doing their best to green Tate-Page Hall and other spaces.

- Motion sensors have been installed in Tate-Page in many public areas including all restrooms, hallways within departments, and several other areas.
- Several windows have been caulked and insulated blinds installed in drafty windows.
- In one of our locations on Normal Street, storm windows were repaired, weather stripping was installed on all outside doors, and the front door was replaced with an energy efficient model.
- Recycle bins for plastic bottle and cans have been placed in strategic places in Tate Page.
- In the Dean's Office, software has been installed to back up each computer and shut down automatically daily.
- More efficient florescent bulbs are replacing old bulbs when they burn out.



**sustainABILITY!** The Department of Environment, Health and Safety has the first rain water capture initiative on campus. They are installing rain barrels around their building to capture rain water for irrigating their landscape. EH&S also uses a Honda Civic hybrid for their departmental vehicle.



# Community and Culture



*Conference attendees sit down to enjoy a local foods dinner on the FAC Lawn.*

## Sustainability 2009

The 2009 Campus Community Partnerships for Sustainability conference hosted by WKU this past April was a great success! Representatives from universities and colleges from all over Kentucky attended, as well as many community members and Earth Force teachers and students from Kentucky schools. The presentations and posters covered a great diversity of topics from corporate citizenship to habitat conservation. Attendees participated in service-learning projects such as fixing up some of Big Red's Bikes and planting the campus herb garden. WKU Student Government Association offered registration scholarships for students to attend.

**The conference was kicked off on Friday evening by a welcome from President Ransdell and Mayor Walker and keynote speaker Jerome Ringo, President of the Apollo Alliance.** Mr. Ringo spent the afternoon at WKU, meeting with administrators and students and his keynote was peppered with accolades for our progress here at WKU. On Saturday, Greener Groundz kept everyone going with coffee service and WKU Restaurant & Catering Group worked with conference planners to serve food produced locally by farmers we know and love.

**After a full day of presentations and workshops on Saturday, conference attendees feasted on a delicious local foods supper** on the FAC lawn and thoroughly enjoyed keynote speaker Chad Pregracke, founder of Living Lands and Waters. Chad stuck around to enjoy Kentucky bluegrass music performed by the Colonel's Secret Recipe. The band was powered by the sun – Andy McDonald, Director of the Kentucky Solar Partnership brought his solar panel

trailer and stored solar energy all day to use to power the band that night!

On Sunday, many conference participants enjoyed one of several field trips offered, including a float on the Green River and a trip to the Wiedegers' Farm – thanks to Nancy Givens, Ouida Meier, Albert Meier, Wes Berry, and the Wiedegers for arranging such great field trips. The weather could not have been better and to those folks that attended the Water and Climate Change Film Festival (sponsored by Berea College), we know it was tough to come inside!

**Thank you, thank you, and thank you to conference sponsors and to everyone that helped to make this conference a wonderful experience.** We look forward to attending the conference next year on a different campus (we'll let you know where as soon as we do!).

*Keynote Speaker Jerome Ringo, President of the Apollo Alliance.*

"The Apollo Alliance is a coalition of labor, business, environmental, and community leaders working to catalyze a clean energy revolution that will put millions of Americans to work in a new generation of high-quality, green-collar jobs."

- Mission Statement  
<http://apolloalliance.org>



## The Allied Alternative Energy Bowling GREEN Tour

In October 2009, the annual Allied Alternative Energy Bowling GREEN Tour allowed participants on bicycles or in bio-diesel-powered Warren County Public School buses to visit 'green' spots in Bowling Green. The tour, hosted by Allied Alternative Energy, LLD, in partnership with BGGreen Partnership for a Sustainable Community, BG Area Convention and Visitors Bureau, and Service Once Credit Union, included visits to the WKU Farm Biofuels Facility, the ALIVE Center to see the solar array and learn about WKU's energy conservation initiatives, and Service One Credit Union's new LEED building, among other places.

# WKU G.R.O.W.S.

By Hannah Morris, Student

Nick Asher and I started WKU G.R.O.W.S., Growing Revolution for Our Well-Being and Sustenance, in an effort to create opportunities for the "unconventional farmer". Both Nick and I are seasoned activists in issues ranging from mountain top removal to food security. Recently we have researched and become disillusioned with our food system as it is cruel, inefficient, and wasteful. Because activists must educate and *act*, we decided to grow our own food in a learning environment and teach others while providing fresh produce for our campus community.

The biggest focus of our sustainable agriculture campaign is the emphasis on the "local food movement" (local food is classified as grown within 100 miles of one's residence). Much of the environmental problem with our food system is the waste that is involved in packaging and preparing the food for transport and the petroleum that is involved in shipping foods across the country. Thus, research shows that local food is the most environmentally responsible option for consumers.

On the WKU G.R.O.W.S. farm, we have 1.5 acres of land that will be cultivated under the tenants of sustainable agriculture, and we have an on-campus farmer's market to provide the public a chance to share the fruits of our labor. We experienced our first harvest this past fall, and we are in the process of spring planning. In the future we hope to host world renowned authors and scholars in the sustainable agriculture field. Currently, we are working toward a goal of having the farm certified by the USDA as "Organic". We look forward to continuing our education on the farm and expect fantastic results. To quote Wendell Berry, we at WKU G.R.O.W.S. agree that our ultimate goal is to "eat responsibly".

*To learn about sustainable farming and get involved with the garden and farmers' market, enroll in Horticulture 475 Spring Practicum in Sustainable Agriculture.*



*Greg Capillo sells student grown produce for WKU G.R.O.W.S.*

## Innovation in Sustainability Endowment

By Seth Cude, WKU Alum

A poster for a student contest titled 'How Would You Green WKU?'. The poster features a green silhouette of a person holding a recycling symbol. The text on the poster includes: 'How Would You Green WKU?', 'a student contest for \$1000 in cash prizes', '\$500 1st place', '\$300 2nd place', '\$100 3rd &amp; 4th place', 'You don't have to do it, you just have to plan it', 'Contest ends March 31, 2009', 'Only current WKU students are eligible', 'Contest requirements at www.wku.edu/green', and 'Prizes funded by the Chase "Go Green" contest won by Greentoppers'.

During the Fall of 2008 Seth Cude spearheaded WKU's efforts in winning the national 'Go Green' contest from Chase Bank, and the \$40,000 prize. The contest involved 186 other universities and over 80,000 students. The money was awarded to the WKU Greentoppers, a campus student group for sustainability.

With a generous matching donation from WKU, as well as support from an independent funder, a total of \$100,000 was raised to create the 'Innovation in Sustainability Endowment'. This endowment will fund student led projects focusing on sustainability at WKU. A large emphasis will be placed on working with faculty mentor on semester long projects for academic credit.

The first project was undertaken by Seth with the help of faculty member Ouida Meier. They held a 'How Would You Green WKU' Contest, offering cash prizes to the students who submitted the best ideas. Submissions were required to include budgets, timelines, benefits, and specifics on how the project would work at WKU.

The winner proposed a very detailed and specific plan to switch all of the WKU busses to electric busses, and second place proposed creating an algae farm for bio-diesel production at the university farm.

This endowment fund puts power into the hands WKU's student body, helping them to create the university they want to see. It has gained tremendous support from the faculty and staff, and it is a testament to WKU's commitment to our future.



## The Institute for Citizenship and Social Responsibility

The Institute for Citizenship and Social Responsibility (ICSR) is an organization of administrators, faculty, students, and staff who are committed to promoting careful reflection on civic values; engaging in critical analysis of contemporary social, economic, and political problems; and developing the capacities and skills of community organizing, citizenship, and civic engagement as ways of achieving social change and the common good.

The Institute is co-directed by Dr. Sandra Ardrey, Political Science Department Head; Dr. Eric Bain-Selbo, Philosophy and Religion Department Head; and Dr. Paul Markham, Assistant Professor & Director for the ALIVE Center for Community Partnerships. The Advisory Board is comprised of a diverse group of WKU faculty and staff and includes internationally renowned scholar Harry C. Boyte, author of *Everyday Politics: Reconnecting Citizens and Public Life*, among many other works.

In summer 2009 the ICSR held a faculty retreat, designed to provide faculty and staff with a "rich intellectual experience" and to promote ICSR initiatives including ICSR 301 courses. In fall 2009, the Institute offered two courses: *Being a Citizen Professional* (Dr. Eric Bain-Selbo) and *Building Capacity for Public Problem Solving* (Dr. Paul Markham). Any faculty or staff member may develop an ICSR course for proposal. Objectives for courses include the following learning outcomes:

- *Learn skills of collaboration and organization to address social, economic, and political issues.*
- *Learn about systemic structures and dimensions of power.*
- *Learn about the mechanisms of social change.*
- *Learn about and practice the virtues of citizenship.*
- *Demonstrate an awareness of and reflect upon issues of social justice and responsibility.*
- *Develop the necessary awareness, skills, and motivation to be effective citizens.*
- *Become agents of social change who are engaged in collaborative efforts with communities on and beyond the campus.*

In the fall semester, ICSR held a two day Student Retreat at Barren River Lake State Resort as an opportunity for students to talk, network, and learn how ICSR can help them achieve their goals. Students spent the time discussing issues of concern to them, learning skills to organize for effective social change, building a community of socially conscious students, and having fun, of course! The ICSR also hosts Third Tuesday Tea (3T) each month for faculty, staff, and students to collaborate and discuss themes related to citizenship, democracy, and social responsibility.

To learn more about the Institute for Citizenship and Social Responsibility, visit: <http://www.wku.edu/icsr/>

## ICSR Student Retreat— Changing Lives, Changing the World!

**By Susie S. Montgomery, Student**

I really didn't know what I was getting myself into when I had decided to go on the retreat. I figured that I would be learning a few leadership skills, and filling out a few of those booklets that tell you what kind of personality you have and what your best leadership qualities are. Boy was I wrong. *I left the retreat with much more, and with a drive to do more than I am doing in the world today.*

The ICSR retreat gave me so much; it opened my eyes to other things that are happening in the world that I had no idea about. I was introduced to students who I had never met before, and they came from such diverse backgrounds. I was surrounded by people who shared the beliefs in life that I have, especially about civic and social responsibilities. All of us came there with our own individual goals that we wanted to attain when it came to helping out humankind, so of course when ICSR was explained to us we were really excited.

*To me, the ICSR will not be a place where people go just to fulfill volunteer hours, but a place where movements will be made.* I believe that the ICSR will help change the face of WKU; when people think of this university, they will not only say "oh that's the University with the big red blob thing" but they will also say "that is the school where they take on task to help out mankind, and they deliver results".

I would like to say that I am *so* proud of WKU for having a program like this. I see only great things in the future of ICSR, and I am *so* happy to be a part of it.

## Field Notes from Appalachia Power Shift Summit

**By Lesley Heck, Student**

Appalachia Power Shift was GREAT! Five WKU students attended: Greg Capillo, Emily Gillespie, Lesley Heck, Rebecca Katz, Hannah Morris. The Power Shift workshops included information about climate legislation, local foods, community renewable energy and an anti-oppression training session.

There was also an option to forego the workshops and spend the day on a 25 square mile mountain top removal site called Hobet 21. *Hannah, Greg, Rebecca and I decided to see first hand the devastation and destruction the land endures through this practice. It was heart breaking. We left feeling justified to continue our efforts to save our mountains, our water, and our Kentucky culture.*

Sunday included state break-out sessions, where Kentucky and West Virginia students split to develop ideas to continue the work back home. All of the Kentucky schools set a date for a statewide direct action against mountain top removal tailored to each campus, preceded by an awareness raising campaign to educate each community about its connection to coal and mountain top removal.

## The WKU Green Fund

To help put vision into practice and achieve significant sustainability goals, the WKU Green Fund was established in 2009. The Fundraising Task Force, a subcommittee of the WKU Sustainability Committee, created the Green Fund as a way to garner support for WKU's sustainability initiatives, many of which require funding. Contributions to the Green Fund will provide support in three principle areas:

**Green campus** initiatives are physical projects and operational improvements to reduce the ecological footprint on campus. These include energy retrofits and renewable energy building applications; responsible purchasing programs, waste reduction and recycling programs; storm water catchment for landscape irrigation, rain gardens, and green roofs; alternative modes of transportation; and more.

**Curriculum redesign** includes course enhancement and faculty development initiatives for sustainability across the curriculum. Funds will support new facilities and centers for teaching sustainable methods and technologies, student scholarships, endowed faculty positions, international programs in sustainability, speakers, conferences, curriculum revisions, and more.

**Community engagement and research** initiatives provide students, faculty, staff, and community partners the opportunity to apply sustainable methods and technologies in real-life settings. Examples include the sustainable agriculture and energy demonstration and teaching project at the WKU Farm, student designs for the local Habitat for Humanity EcoVillage, a Nature Explore Classroom being developed with the WKU Child Care Consortium, and the development of an Ecodorm for nontraditional students by Residence Life (HRL).

WKU seeks to become a leading university with international reach in sustainability. Contributions to the Green Fund will create a lasting legacy and help ensure a sustainable future for generations to come.

To learn more about the Green Fund, please contact Christian Ryan-Downing, WKU Sustainability Coordinator at (270) 745-2508, or email [sustainability@wku.edu](mailto:sustainability@wku.edu).

For more information on the faculty/staff payroll deduction option, contact Amy Hardin, Assistant Director of Annual Giving, at (270) 745-6490 or [amy.hardin@wku.edu](mailto:amy.hardin@wku.edu).

For a downloadable Green Fund brochure, visit: [www.wku.edu/sustainability](http://www.wku.edu/sustainability)

## WKU Bike Lending Program – Big Red's Bikes

Big Red's Bikes is a free bicycle lending program created by the student organization, GreenToppers Students for Campus Sustainability. Anyone can borrow a bike for an hour or a day to ride around the campus community. Bicycles that are abandoned on campus are collected by Parking and Transportation Services and turned over to GreenToppers for refurbishment and a new life as a Big Red's Bike. Student and bike mechanic Nick Asher (in picture) worked diligently on the bike fleet over the summer and the bikes are looking good. To ensure that the bike program is able to continue, several partners have joined GreenToppers to support the effort. Parking and Transportation Services provides funding support for a part-time mechanic to keep the bikes in good condition. In fall 2009, the Parents Advisory Council generously contributed funds to purchase tools, locks, and parts for the bike fleet. The bike library will be relocated to the Department of Facilities Management and Office of Sustainability this winter. The central location and staff support for bike lending from 8-4:30 Monday through Friday should make borrowing a bike more convenient. GreenToppers will continue to provide opportunities for volunteers to help work on the bikes so that members of the campus community can hone or learn bike mechanical skills.

Please remember that a Big Red's Bike is a great option for getting around campus, and the bikes are always ready for a spin.





# Energy

**In the world of sustainability, 2009 would appropriately be called the Year of Energy at WKU.** It started even before the new year, during the 2008 winter break, when we conducted the first ever “hard shutdown”. The Plan was to give faculty and staff an extra week off during the break, an opportunity exclusive to the 2008 calendar year, and turn everything off while the campus was largely unoccupied. The Goal was to save 1 million kilowatt hours in three weeks. Did we do it? YES. With the help of the entire campus community, we saved more than 1 million kilowatt hours! Faculty and staff unplugged everything from refrigerators to drinking fountains. Parking lots were closed and dimmed to safety levels. Dining services even consolidated all food into one freezer so that no energy was wasted.

**We tracked our progress** on the web and the website was visited over 1000 times during the break. Observant faculty and staff sent emails about lights left on and missed opportunities for savings. We learned that there are lights on our campus without switches, such as the infamous Tate-Page Hall hallway lights that have been burning for 30+ years.

The hard shutdown set the stage for initiatives to come, the most significant of which was the creation and adoption of a campus **Energy Policy**. The Energy Policy, a remarkable collaborative effort by faculty, staff, and students is comprehensive in scope, including building design and construction, transportation, and purchasing. Above all, the Policy emphasizes personal responsibility, acknowledging the potential for substantial conservation through personal behaviors. Adoption of the Policy was celebrated with a press conference conducted by President Ransdell and Kentucky Governor Steve Beshear. And if imitation is the best form of flattery, WKU can consider itself well complimented, because the City of Bowling Green has used our Energy Policy as a model, as have other institutions across the country.

## **These and other initiatives have increased awareness and cultivated a culture of conservation at WKU.**

In the 2008/2009 fiscal year, energy use on campus was reduced 4 million kilowatt hours over the prior fiscal year. This is a truly remarkable feat, considering the fact that the campus has grown in population and size. But we can always do better, and current projects such as building weatherization, acquisition of a new natural gas boiler for the Central Steam Plant, and the Housing and Residence Life real time energy feedback dashboard ensures a continued reduction in WKU’s carbon footprint.

## **Energy Savings Performance Contract will help WKU operate more efficiently**

After a long period of research and deliberation, WKU awarded Johnson Controls the Energy Savings Performance Contract. This initiative allows us to improve and update our current infrastructure for energy efficiency. The majority of campus buildings were constructed during a time when energy savings were not considered in the course of design and construction and the energy technologies were not as efficient as today’s technologies. This project, with guaranteed payback for financial efficiency, will contribute to electrical conservation and slower increases in utility budgets.

The ESPC provides WKU with the opportunity to make some positive and much needed improvements. These include (but are not limited to): lighting upgrades, installation of occupancy sensors, water efficient plumbing fixtures, upgraded boiler controls, solar thermal water heating and stormwater capture. Expected annual results are an 11% electricity use reduction, 15% water use reduction, and 14% reduction in coal and natural gas use. This adds up to about \$1 million in annual utility savings and carbon emission reductions of over 21,000 tons!

John Osborne, Vice President, Campus Services and Facilities, says it best, “WKU is committed to making this a successful project, one that achieves the specified financial savings and energy reductions for many years into the future. In the near term, energy efficiency and conservation represent the fastest, cleanest, most cost-effective, and most secure methods we have to reduce our growing demand for energy and it will assist us in reducing our carbon footprint. This project will therefore have many long term benefits for the Commonwealth and the University.”

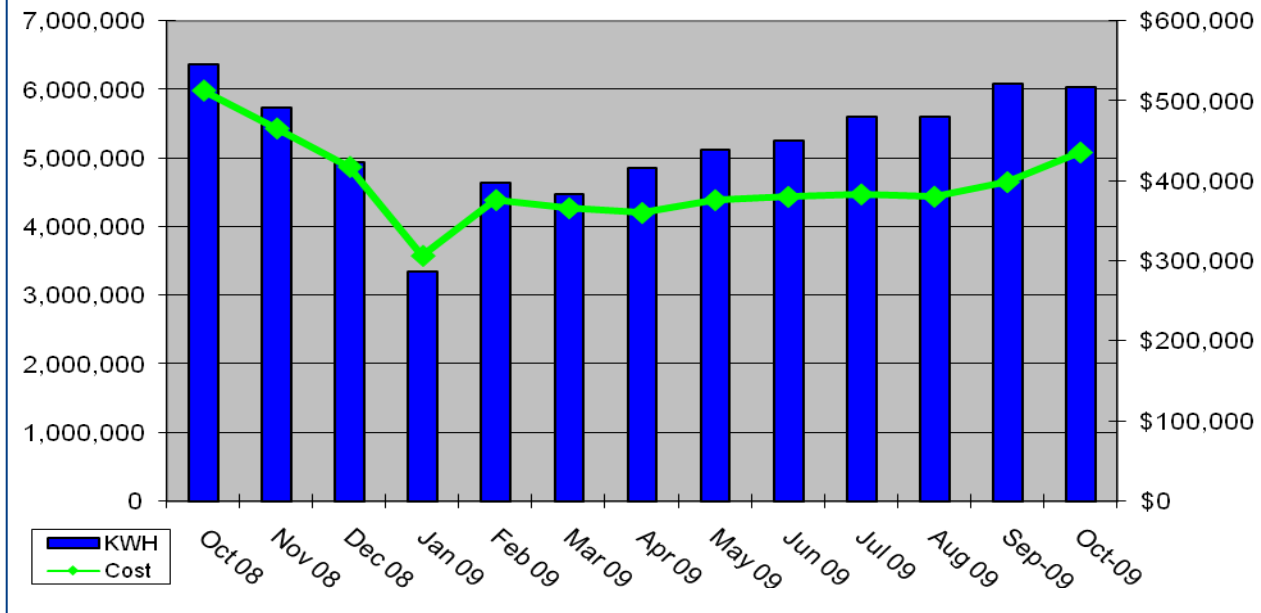
Johnson Controls will begin work on ESPC projects this winter. Look for energy and water efficiency improvements coming soon.



**sustainABILITY!** The Department of Facilities Management has discontinued use of disposable coffee cups by instituting a “Bring Your Own Mug” policy. There will always be hot fresh coffee for DFM staff and visitors, but everyone now

brings their own mugs. This saves the department money, reduces waste, and decreases our environmental footprint. Additionally, the Dept is in the process of eliminating paper maintenance requests to save paper. The campus community is encouraged to send maintenance requests electronically, and paper requests will be phased out in fall 2009.

## Western Kentucky University main campus electricity use



### Solar at the ALIVE Center

The ALIVE Center solar panels continue to quietly and cleanly soak up the rays and turn them into electricity. On January 30, 2008, a small commercial grid-intertied 'Generation Partners' solar photovoltaic (PV) system was completed at the WKU ALIVE Center for Community Partnerships. The system is a community milestone, being the first installation of its type in Bowling Green and the first local participant of the Tennessee Valley Authority's (TVA) Green Power Switch Generation Partners program. Nancy Givens, Sustainability Programs Development Coordinator at the WKU Center for Environmental Education and Sustainability (CEES), worked with Bowling Green Municipal Utilities (BGMU) to initiate the green power buy-back program, laying the groundwork for future local generators of solar or wind power.

Since mid July 2008, the ALIVE Center system has generated 3,950.86 kWh electricity, avoided 2,765.60 kg CO<sub>2</sub>, and generated \$470. The cumulative real time data can be viewed online at [www.sunnyportal.com](http://www.sunnyportal.com) under *Publicly viewable plants*.

The installation is a collaborative project of the WKU ALIVE Center and Department of Facilities Management (DFM), BGGreen Partnership for a Sustainable Community, Bowling Green Municipal Utilities (BGMU) and TVA. The system was installed by Sunbelievable Services of Berea, KY. Funds for the installation were provided by the WKU Ogden College of Science and Engineering Dean's Office. The solar panels were provided by Kaveh Khatir, Associate Professor of Architecture and Manufacturing Sciences, who used them in previous research applications at WKU.

### Building Weatherization Project

One of the biggest challenges in saving energy and maintaining a comfortable living, learning, and working environment on the WKU campus is also a great source of pride: our historic buildings. While we treasure our university's history, we are not so charmed with the drafts and leaks in buildings that are frequently too hot or too cold. Our Department of Facilities Management (DFM) staff are working hard to make buildings more comfortable and efficient and DFM has launched a building weatherization blitz. By 2012, all academic and administrative buildings on campus will be weatherized, including adding insulation, caulking, and replacing door sweeps.

#### Some projected statistics:

- 3 year project, 27 buildings
- 2250 sq. ft. of blown insulation (Honors Building)
- 1043 door sweeps replaced
- 17,731 liner ft. of door weather stripping replaced
- 72,890 liner ft. or 13.8 miles of caulking and glazing
- 8,020 liner ft. of 2part foam sealant



# Green Space

## Campus Green Space

WKU's Manager of Campus Services, Greg Fear, LEED AP and our new campus Gardener Josh Twardowski, are working diligently to 'green up' the green spaces at WKU. Greg's Grounds Crew of 23 people maintain our campus lawns and athletic fields. Josh directs an Assistant Gardener and crew of 7 student gardeners who are responsible for the care of our gorgeous campus gardens. Working with the WKU's Landscape Architect, Helen Siewers, Greg and Josh incorporate sustainable concepts into our landscaping. These efforts include but are not limited to planting drought tolerant and native species, removing invasive species and propagating new plants from cuttings and seed during the winter months. Organic fertilizers are used on our gardens and lawns and pest control is very limited, using Integrated Pest Management (IPM) as an innovative strategy. All lawns are mulch-mowed through the fall to increase organic matter in the soil. Biodiversity is increasingly noticeable in our lush green lawns, as evident by the presence of clover and even a few dandelions.

**WKU has a very ambitious tree removal policy.** When a tree must be removed due to construction or decline in health, we make a valiant effort to replace it with three. The drought conditions experienced in 2007 and 2008 were detrimental to our trees. Fortunately, 2009 has proven to have been a much better growing season, due to above average summer rainfall. Trees that are removed from campus are getting a new life! All materials trimmed from trees are recycled as mulch material and some of the wood will be used by students and artists. Our fall 2009 tree planting includes more than 200 new trees!

**The end of summer does not mean the end of grounds management.** Greg Fear is responsible for making sure all outdoor high traffic and sensitive hardscapes are clear and safe when wintery precipitation arrives. Greg uses the most sustainable methods as possible. Including a sustainable brine solution that requires 75% less product. This effort results in a reduction in the amount of bulk salt used on campus. This has a direct environmental benefit resulting in the drastic reduction of leaching of chemicals into our groundwater.

## The Herb Garden

The campus Herb Garden, located on the berm between DUC and South Lawn is maintained by the Garden Crew. The plants were contributed by Student Government Association and Restaurant & Catering Group. The garden was expanded last spring as a service learning project during the Campus Community Partnerships for Sustainability conference. The more the herbs are picked, the healthier they grow. We encourage any member of the campus community to pick responsibly.



Upper Green River



Biological Preserve  
Western Kentucky University

The **WKU Upper Green River Biological Preserve** in Hart County has grown from 600 acres in 2003 to 1,080 acres in 2009. The Co-Directors, Drs. Albert Meier, Ouida Meier, and Scott Grubbs, received the first Stewardship Award from the Kentucky Heritage Land Conservation Fund Board, from whom WKU received grant funds for purchase and management (fueled by proceeds from KY Nature auto license plates). A multitude of restoration projects at the Preserve include restoration of endangered mussels, threatened plants, bottomland hardwood forests, and Kentucky native prairies. The forest at the Preserve approximates the equivalent of a carbon offset for all the electricity use at WKU's Glasgow campus. WKU students are involved in the restoration and management of many endangered species on-site and all of the restoration projects, and conduct research on many of these as well. Find out more about the Upper Green River Biological Preserve at <http://greenriver.wku.edu>.

# Housing and Residence Life

## **Housing and Residence Life (HRL) has been working on initiatives such as recycling and energy conservation for some time,**

and 2009 was no different. Although they implemented many great projects and programs, the highlight of 2009 was the launch of the new Building Dashboard for all residence halls. The Dashboard provides real-time feedback



on each hall's energy use and converts kilowatt hours to units such as pounds of coal, hours run on a laptop

and energy embodied in the production of hamburgers. The Dashboard can be used to see if conservation efforts are working, or to engage students in contests such as the annual "Reduce Your Use!" energy conservation competition among all residence halls. October 2009 was the third year for "Reduce Your Use!", and the Dashboard adds a great learning element to the competition. Anyone can check the website anytime to see which building is most reducing their use.

The Dashboard would not have been possible without the collaboration of the DFM Energy Management team. In a couple of buildings, energy meters needed replacement, and all building meters had to be connected to a centralized computer system that takes readings and relays them to the Dashboard.

The Building Dashboard, designed by Lucid Design Group, is almost too cool to be an educational tool.

*Check it out at: [www.wku.edu/housing/dashboard.htm](http://www.wku.edu/housing/dashboard.htm).*

## **Other sustainability initiatives in Housing and Residence Life:**

- Placed light switch stickers in all residence hall rooms reminding students to flip the switch to conserve electricity.
- Coordinated the 2<sup>nd</sup> Annual "Reduce Your Use" competition in 2008. The winning hall was given sport bottles made from recycled materials.
- Continued recycling aluminum and #1 and #2 plastics and added outdoor recycling receptacles for paper and plastic.
- Collected over 7 tons of cardboard during M.A.S.T.E.R. Plan move-in (in partnership with WKU Recycling).
- Coordinated "Lighten Your Load" during spring finals week (in partnership with WKU Recycling). Gently used clothing, nonperishable food, and household

items were collected during move-out and donated to local charities.

- Added occupancy sensors to common areas and bathrooms and upgraded to more efficient lights during renovations.
- Installed a waste compactor at Zacharias and Meredith Halls. The compactors reduce landfill space and the number of trips to a landfill. All residence halls now have compactors.
- Coordinated with Habitat for Humanity to remove reusable items from homes purchased by HRL on Kentucky Street and resell them at the "Restore".
- Added additional bike racks at various locations around the residence halls.
- Collected and recycled metal materials during renovations.
- Installed low-flow shower heads and toilets during renovations.
- Replaced outdated boilers and heat exchangers with more efficient models.
- Sponsored the 2009 Campus Community Partnerships for Sustainability Conference hosted by Western Kentucky University.

## **Green Seal**

WKU Building Service Attendants continue to test and use Green Seal certified cleaning products in our campus buildings. These products work very well, and are safer for our Building Service Attendants, building occupants, and the planet. They are also using eco-friendly techniques and supplies such as micro-fiber cloths and mops and water saving floor scrubbers. Green Seal product evaluations are conducted using a life-cycle approach to ensure that all significant environmental impacts of a product are considered, from raw materials extraction



through manufacturing, use, and disposal. Wherever possible, Green Seal standards cite international test methods for evaluating product performance or environmental attributes such as toxicity, and its procedures conform to international standards for eco-labeling. In developing environmental standards and certifying products, Green Seal follows the Guiding Principles and Procedures for Type I Environmental Labeling adopted by the International Organization for Standardization (ISO 14024).



# Materials Management/Recycling

## Recycling gets a fresh start

2009 saw an interesting phenomenon at WKU: the recycling bins seemed to multiply like rabbits! The dozens of new bins that popped up all over campus did not magically appear; the Department of Facilities Management created two full-time positions dedicated solely to the improvement and expansion of the campus recycling program, and invested over \$30,000 towards the purchase of new recycling bins. Recycling Coordinator Cristin Lanham and Recycling Group Leader Chris Radus began their positions in spring of 2009, and by summer's end, opportunities to recycle plastic, paper, aluminum, and cardboard were present all over campus. And this was a case of "if you build it, they will come", because the bins are always full, and the contents are near perfect. (By perfect, we mean no "contamination", which is the most common lament of recycling professionals. A paper collection bin containing paper only – no half eaten sandwich, Styrofoam take-out container, or plastic dividers – is perfect.)

**Western Kentucky University generates about 3 million pounds of**

**solid waste each year.** Dumpster audits by student "Garbologists" from Dr. Applegate's Introduction to Archeology class have indicated that up to 35% of our waste is easily recyclable. In 2007, we recycled 4% of our total campus waste; in 2008 we increased our recycling rate to 9%. And 2009 is showing signs of being our most successful year yet. A comparison of September 2008 with September 2009 shows an increase of over 1,000 pounds of paper and cardboard, and collection center servicing indicates that plastic recycling has doubled. Much of this can be attributed to the availability and convenience of our new bins, but mostly to the conscientiousness of our campus community in the utilization of the new bins, and in the determination of our Recycling Crew to capture and recycle as much material as possible. **The recycling program is still staffed primarily by students,** and most of the legwork is done by the crew comprised of 8 students of various ages and from many different disciplines. They are united in their desire to see recycling become a priority on our campus and spend a considerable amount of their time making sure that individual efforts towards recycling do not go unattended. On foot or in trucks, rain or shine, they each spend around 20 hours

per week hauling recyclables to our collection center, sorting materials, and cleaning bins. You'll be able to identify them by the new Recycling Crew uniform – red shirts made from recycled and reclaimed polyester and cotton fibers.

The Department of Facilities Management has also successfully changed uniforms and managed to recycle all the old ones, thanks to help from the Office of Sustainability and WKU Recycling. Old uniforms were turned in as new ones were turned out, and all were turned into insulation for Habitat for Humanity homes.



**The move-in cardboard recycling drive was triumphant** again this year. Thanks to a partnership coordinated by the Office of Sustainability between WKU Recycling, Housing and Residence Life and the WKU Garden Crew, 14,730 pounds of cardboard was diverted from the landfill. The diligence and determination of these partners in actively monitoring dumpsters, removing cardboard, and engaging new students and their parents in our recycling efforts are to credit for this twofold increase over last year. **Fall 2009 marks the launch of the Tailgate Recycling Initiative** sponsored by WKU Recycling and WKU Athletics. With the help of the Recycling Crew, the Garden Crew, the Grounds Crew, and volunteers from the Outdoor Recreation and Leadership program, we have successfully captured and recycled over 600 pounds of aluminum cans from the tailgating festivities. Fans can look for blue bags to accompany the regular clear garbage bags for all future home games. Recycling collection bins are placed all around tailgating areas, and a Recycling Station is set up where participants can bring other materials such as paper, cardboard, and plastic. **Go Tops!**

## Lighten Your Load

At the closing of the 2008-2009 academic year, WKU Recycling partnered with Housing and Residence Life to capture as much reusable stuff as possible for the second annual 'Lighten Your Load' move-out drive. From skinny jeans to phat hoodies™ to lamps and alarm clocks and refrigerators to cartons of chicken broth, we captured nearly a tractor-trailer load of stuff from the students leaving the dorms. Clothing and household appliances were sorted, tested, and then donated to Goodwill. Food was taken to area churches' food banks for the needy. Next year, we plan to have an outlet for foam mattress covers, since we can't find anyone who wants one used. [Any ideas? Let us know...](#)

## Food composting in the kitchen

In cooperation with WKU Restaurant & Catering Services, WKU Recycling has recently begun a pilot pre-consumer food scrap composting operation. Roughly 250 pounds of food waste are recycled daily from the Fresh Food Company. In addition, all shredded paper from the campus recycling program, all organic matter from the WKU Gardens, and some of the leaves collected by the WKU Grounds Crew are being composted. Soon, all sawdust from the Industrial Education Building will be added. When finished, this 'black gold' will be used to fertilize the Campus Community Herb Garden, as well as other campus gardens and landscapes.

***Special Thanks to Cristin Lanham, WKU Recycling Coordinator, for contributing this section.***  
***Contact Cristin at: [recycling@wku.edu](mailto:recycling@wku.edu)***

## Creative Recycling Solutions for e-scrap

WKU has contracted with Creative Recycling Solutions (CRS) to provide our campus Surplus and Inventory Division with e-scrap recycling services. CRS accepts all electronic items from our University Surplus including, (but not limited to) computers and monitors, telephones, televisions, VCRs and DVD players, copy machines and printers, shredders, fax machines, and almost anything else that has a plug (excluding refrigerators and air conditioners). To date, WKU Inventory Control Coordinator Donna Mefford has delivered over 60 thousand pounds of e-scrap to CRS. All e-scrap is dismantled into the categories of their recyclable components in an environmentally responsible manner and reintroduced to the commodities market.



**sustainABILITY!** Jill Brown, Geography Instructor, and Rhonda Patterson, Assistant Professor of Biology, are responsible for the South Campus Recycling Program. They have recycling bins

for plastic bottles and aluminum cans in all classrooms, the lobbies, and the food court. Each week during the fall and spring semesters the bottles and cans are collected from the bins. They are then counted and bagged to be taken to the recycling center. WKU Recycling picks up the bottles on a weekly basis. The Instructors take the cans in themselves and use the revenue from the cans to buy bags (made out of recycled material) specifically designed to fit the bins. Last academic year, they recycled 12,043 bottles and 2443 cans with help from 132 students in the fall semester and 221 students in the spring semester!

Big Red is Going Green!

## E-bills to Replace Paper Bills for WKU Students

Beginning with the Spring 2009 semester, WKU will no longer mail paper billing statements to students. All billing will be electronic with students receiving account statements through their WKU e-mail address.



### Benefits of e-billing:

- You are notified by e-mail when your bill is ready to view.
- Students can select a billing e-mail address through TopNet so they can have their account statements sent to an e-mail address in addition to their WKU e-mail address.
- Billing history is available for viewing throughout the semester.
- You will always receive the bill; no worry of bills getting lost in the mail.
- No more paper – environmentally friendly!
- For more information... Visit our website at [www.wku.edu/bursar](http://www.wku.edu/bursar)

**E-bills for the Spring 2009 semester will be available beginning December 8, 2008**

**WKU**



# Cutting the paper use

By Masako Barnaby and Dr. John Bowers, Academic Technology

With almost 9.3 million pages printed in WKU Student Technology Centers in the 2007-2008 academic year, lab printing is clearly an environmental sustainability issue. Usage statistics show that waste and abuse of unlimited free printing privileges have contributed to the problem. Some 7% of pages printed in labs were discarded immediately, before ever leaving the lab; a small minority of less than 15% of lab users accounted for almost 60% of the total pages printed, and 19 users abused the system by printing more than 10,000 pages in a year. The cost to the University to print 9.3 million pages in 2007-2008 was about \$198,000. Working with the Student Government Association, Academic Technology developed a new system of free print allocations for lab users. Lab printing is still free, but it is not unlimited. Students receive an allocation of free pages each year, at no cost (the allocation depends on status: full-time or part-time, graduate or undergraduate). The free print allocations set a reasonable limit on how many pages

a user  
can

print in labs.

Implemented in March 2009, the free print allocations had an immediate and substantial impact on lab printing. Lab users began to pay attention and be more careful with printing. As a result, lab printing reduction began in the very first week. Consistently since March, weekly lab print statistics have shown a significant reduction of about 40% compared to the same weeks last year. We are on track to reduce annual printing by a projected three million pages in the next academic year, and to decrease printing costs by a projected \$75,000 in paper and print supplies.

**Please print responsibly. Don't print unless necessary. If you do need to print, print double-sided whenever possible and use recycled content paper. WKU SIFE print center offers great deals on ink and toner cartridge refills and if they can't be refilled, they will recycle them.**







*"This is paper that never left the lab. I had boxes and boxes of recycled paper and my students came up with the display. It took us many days to assemble the ribbons and all of us participated to create them." - Masako Barnaby, Earth Day 2008*

*-Earth Day 2008*



# Parking and Transportation

**WKU Parking and Transportation Services made the news in 2009 for their innovative parking lot designs**, which are reducing storm water run-off by incorporating expanded green space and permeable concrete. These sustainable design aspects have been used in renovation and expansion projects including: University Boulevard Lot, Mimosa Parking Lot, Chestnut Street North Parking Lot, Adams Street Lot, and Pearce-Ford Tower Lot. The parking lots are much nicer for people and the planet; in the Chestnut Street North Parking Lot, use of expanded green space and permeable concrete reduced storm water run-off by 41%!



Parking and Transportation Services' sustainability initiatives certainly don't end there. They are working to promote transportation alternatives that help us reduce our personal and campus carbon footprints. Campus community members can easily share rides with AlterNet Rides, a web-based ride-matching program on the PTS website. They sponsored Carpooler Appreciation Days for those who shared a ride to campus on October 20th or 21<sup>st</sup>. Carpoolers pulling into Parking Structure #2 were given tickets redeemable for free coffee, hot cider and donuts.

Other transportation alternatives abound. Parking and Transportation Services has worked with GObg Public Transit Service to create a new public transit route from high-density off-campus student housing and shopping to campus. They also participated in planning for a student semester pass for unlimited access to public transit system. Their efforts to better serve the campus community must be paying off- transit ridership grew in FY09 by 3% to 453,850 passengers carried!

The growing number of bicyclists has led to the need for a bike friendly campus and PTS has responded. They hosted the 1<sup>st</sup> annual **Velorution** bicycle festival and promoted a President's Ride led by President Ransdell to downtown Bowling Green, where Mayor Walker spoke to the group at Fountain Square. They also added 120 bike racks in the last year, bringing the total of bike racks installed by PTS to 500 bike racks throughout campus. The bike racks are manufactured by students in the WKU Architectural & Manufacturing Science Institute. Bike racks and pavilions are important, but a safe place to ride, walk and jog makes a great community and PTS is working on that too. They partnered with the city of Bowling Green to construct the grant-funded two mile multi-use path that connects the main campus with the south campus.



**sustainABILITY!** PTS participated in the campus-wide Conservation Vacation in December to reduce energy consumption. They closed parking structures and parking lots for the December break and dimmed the lights to safety levels.

**Architect and Manufacturing Sciences Professor Neal Downing incorporates sustainability concepts** into his courses, and his students often work on projects that help advance sustainability at WKU. They are responsible for building the bike racks we use on campus and last fall, they took it a step further. One of the AMS 460: Architectural Design Studio Two projects was to develop a design for a Bike Pavilion for the new Pearce Ford Tower outdoor area that enhances the outdoor space, is eco-friendly, and advances sustainability. The Studio produced 9 schemes and PTS Director Jennifer Tougas, Landscape Architect Helen Siewers, and Recycling Coordinator Cristin Lanham were invited to critique.

# Restaurant and Catering

*According to Worldwatch Institute, food transportation is the biggest, fastest-growing source of greenhouse gas emissions worldwide, with the average food item traveling around 1400 miles from farm to fork.*

## Green Dining at WKU

WKU's Restaurant & Catering Group continues to green campus dining services with great success. The changes are barely noticeable to the casual diner enjoying their great food, but much thought and effort goes on behind the scenes. For example, who knew that coffee grounds from Java City are used to improve soil in campus gardens? And that they have agreed to donate their used cooking oil to the Mechanical Engineering Bio-diesel Project (see bio-diesel project, page ?)? Or that they are implementing an Energy Conservation program in all dining locations?

Here are some of the other green things going on in our dining locations:

- Last fall, Fresh Food Company went trayless and has significantly reduced food and water waste.
- All campus dining locations recycle cardboard and Fresh Food Company recently began working with WKU Recycling to compost their pre-consumer (kitchen) produce waste, such as carrot tops and melon rinds.
- Freshens cups and lids are compostable! This means that you can put your cup or lid in the green compost receptacle near Freshens and WKU Recycling will see that it is properly composted. You can have your smoothie and do something good for the planet too!
- Napkins are 100% bleach free and recycled content.
- Even the cleaning is green, using cleaning products that are eco and human friendly.
- Milk jugs from Java City locations are now recycled (and

they generate a LOT from all those lattes they make!). WKU Restaurant & Catering Group participated in Recyclemania before it was even cool! Now, the rest of WKU has caught up with the dining trendsetters and Recyclemania will be a campus-wide effort (get ready because it's coming soon...).

If you have questions about sustainability in our campus dining services, please contact WKU Restaurant & Catering Group Sustainability Champion Meredith Tooley or Nena Shomler, Director of Marketing.

Going Green Just Got Easier



Drink  
to the  
Earth

Reusable Mugs  
\$3.99<sup>+tax</sup>

Available at  
Java City DUC, Java City Library,  
DUC Food Ct., Garrett Food Ct.,  
Tower Ct., Bate Shop and Pit Stop  
Convenient Store

Fountain Drink Refills - \$1.09  
at DUC Food Ct., Garrett Food Ct., Tower Food Ct. & South Campus Food Court

Coffee Refills - \$1.39  
at Java City DUC, Java City Library & South Campus Food Court



# WKU Sustainability Committee

In late 2008, President Ransdell created and appointed the WKU Sustainability Committee. The committee, which is comprised of faculty, students, and staff, is charged with integrating principles of sustainability into University academics, operations, and culture. The committee is advisory to the President and reports to the Vice President for Campus Services and Facilities and is chaired by the WKU Sustainability Coordinator.

**The WKU Sustainability Committee has made many accomplishments in 2009.** The Energy Conservation Task Force subcommittee created the WKU Energy Policy, adopted by the University in spring 2009 and celebrated by a visit from Governor Beshear. The Fundraising Task Force established the WKU Green Fund, to which donations can be contributed to support major sustainability initiatives at WKU. The Pollution Prevention subcommittee is working to create a storm water management plan for our campus. And, the WKU Sustainability Committee is supporting the Education for Sustainability Steering Committee to help integrate Education for Sustainability as a critical focus in academics.

The WKU Sustainability Committee is currently working to develop priorities for the upcoming year. Plans include the development of the Sustainable Purchasing Policy and Guidelines, participation in the Sustainability Tracking, Assessment, and Rating System (STARS) developed by the Association for Sustainability in Higher Education (AASHE), and partnering with the Education for Sustainability Steering Committee to provide professional development opportunities for faculty and staff.

If you have ideas for the WKU Sustainability Committee, please contact committee chair Christian Ryan-Downing at: [sustainability@wku.edu](mailto:sustainability@wku.edu)

## **The goals and objectives of the WKU Sustainability Committee:**

- Engage the campus in an ongoing dialogue and sustainability at WKU
- Establish common understanding of sustainability and stewardship from which policy can proceed
- Develop guiding principles to advance sustainability at WKU
- Integrate sustainability into existing programs in education, research, and operations
- Change campus energy use behavior and create campus conservation efficiencies
- Reduce energy consumption

To learn more about the Sustainability Committee and its work, please visit the WKU Sustainability website at: [www.wku.edu/sustainability](http://www.wku.edu/sustainability)



**sustainABILITY!** FaCET brings in the New York Times for instructors as part of the American Democracy Project; WKU Recycling collects the papers used by students and takes them to the Humane Society. The unused ones (that students don't collect) are taken to the Recycling center. This amounts to roughly 300-500 papers weekly. FaCET has always recycled the papers returned to their bins, and Recycling has set up bins this term in the lobbies of buildings that get lots of papers. The Newspapers in the Classroom program is held in fall and spring semesters for 13 weeks of the term.



**sustainABILITY!** The Cyber Defense Laboratory (CDL) has recently requested and received, from WKU recycling, a total of one cardboard recycling bin, one plastic bottle recycling bin, one aluminum can recycling bin, and nine desk-side recycling bins for us to help further the WKU sustainability goal. In addition the CDL maintains a comprehensive electronic data base of university files and prints only those which are absolutely necessary. We have recently purchased a new printer which allows us to duplex print, using half as much paper. Our office also participates in the Staples ink and toner cartridge recycling program which allows us to return empty ink and toner cartridges for reuse. We have also chosen to increase our thermostat by 2 degrees to prevent the roof AC units from having to utilize more energy.

We currently have plans to double the size of our network test bed. However, rather than purchase physical hardware and consume additional energy, we are avidly exploring the option of virtualization on the 50% increase of our network center. We are also looking into the option of purchasing equipment which is rated as being more energy efficient and environmentally friendly than traditional network equipment. As for the office, we are exploring the possibility of exchanging our current fluorescent tube lights for ones that are more eco-friendly.

Western Kentucky University is a proud member of AASHE. An institutional membership provides benefits to the entire campus community. It allows any WKU student, faculty or staff access to sustainability resources, connections to other institutions working toward sustainability and a forum for discussion and publicizing campus sustainability efforts to the greater network of AASHE members and beyond.



### **Association for the Advancement of Sustainability in Higher Education (AASHE)**

AASHE's mission is "to promote sustainability in all sectors of higher education – from governance and operations to curriculum and outreach – through education, communication, research and professional development." AASHE is an association of member colleges and universities in the United States and Canada that are working to create a sustainable future. AASHE provides resources for all sectors of campus and community including a comprehensive library of information on campus sustainability, professional development, and other tools to help higher education take a leadership role in preparing students and the greater campus community to achieve a more sustainable society, and to become a model of sustainability.

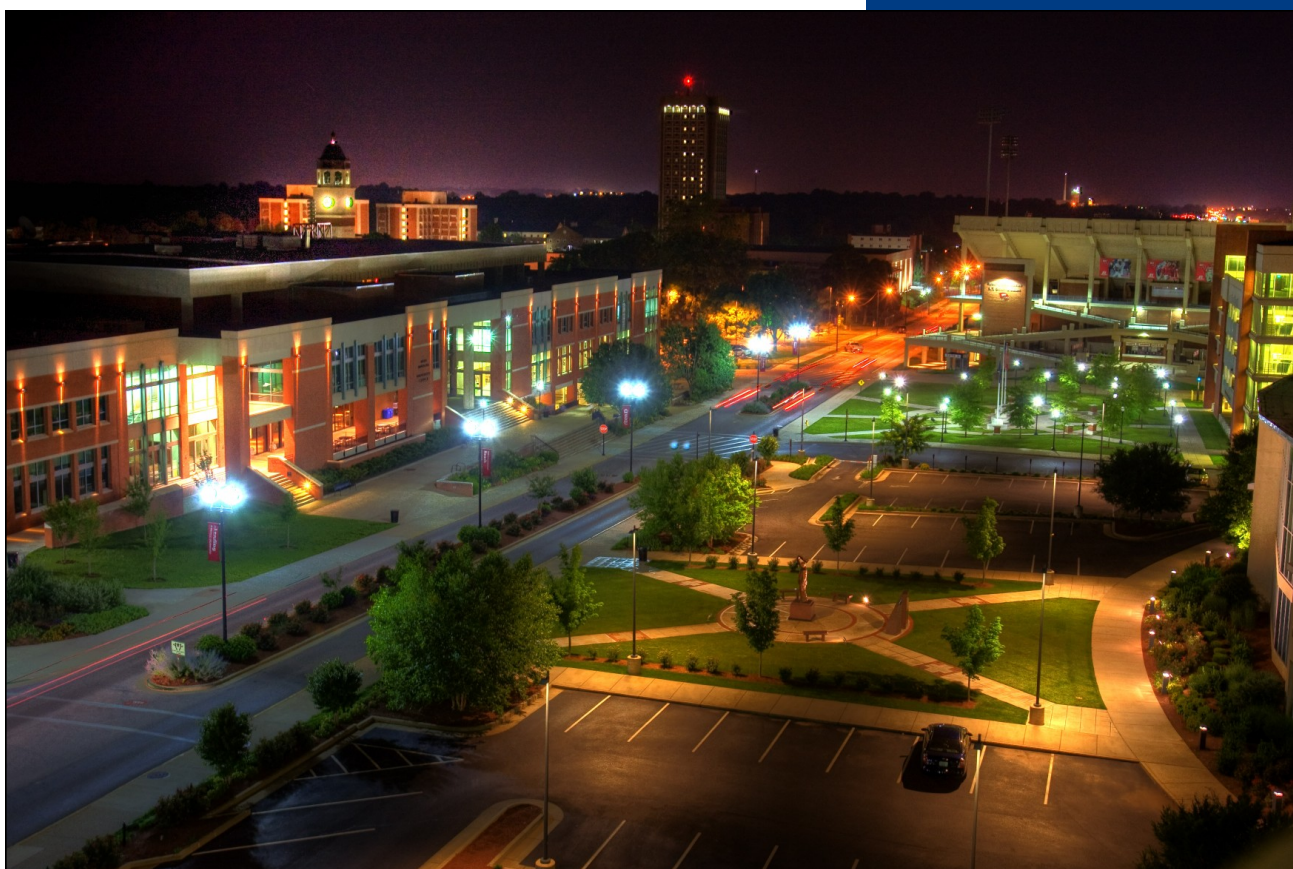
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Terry Wilson

If any sustainability initiatives or practices were missed in this report, we would love to know about them. Please email [Sustainability@wku.edu](mailto:Sustainability@wku.edu) with questions or comments



The 2009 Sustainability Report was created by the WKU Office of Sustainability and designed by student Sara Ferguson.





**WKU<sup>®</sup>**

**Office of Sustainability**

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